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(54) Title: MODEL FOR MICROFILTRATION OF POLY-DISPERSE SUSPENSIONS

(57) Abstract: The present invention relates to a method for predicting pressure independent permeation flux and target molecule yield in a permeate resulting from crossflow filtration of particles in a poly-disperse suspension, a method for determining packing density of particles at the membrane wall of a poly-disperse suspension, a method for designing a filtration system for a poly-disperse suspension, a method of selecting operating conditions of a crossflow filtration system for poly-disperse suspensions, and a method of modeling a process for filtration of a poly-disperse suspension using a computer generated program for predicting pressure independent permeation flux and target molecule yield.

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INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US03/25230

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B01D 61/20
US CL : 210/637

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 210/637,644,649-654,739,741; 095/1,23,43; 073/38,865.5,865.9; 700/266,273,282; 703/2,

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
JOURNAL OF MEMBRANE SCIENCE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST; search terms: membrane,crossflow,tangential,polydisperse

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	A. Ould-Dris, M.Y. Jaffrin, D. Si-Hassen, Y. Neggaz, Effect of cake thickness and particle polydispersity on prediction of permeate flux in microfiltration of particulate suspensions by a hydrodynamic diffusion model, Journal of Membrane Science, Volume 164 (2000) pages 211-227.	57,58 and 64-67 --- 1-56, 59-63 and 68-79
Y --- A	S. Chellam, M.R. Wiesner, Evaluation of crossflow filtration models based on shear-induced diffusion and particle adhesion: Complications induced by feed suspension polydispersivity, Journal of Membrane Science, Volume 138 (1998) pages 83-97.	57,58 and 64-67 --- 1-56,59-63 and 68-79
Y --- A	H.B. Dharmappa, J. Verink, R. Ben Aim, K. Yamamoto and S. Vigneswaran, A comprehensive model for cross-flow filtration incorporating polydispersity of the influent, Journal of Membrane Science, Volume 65 (1992) pages 173-185	57,58 and 64-67 --- 1-56, 59-63 and 68-79

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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